

METHOD AND DEVICE FOR READING DEEP BAR CODES  
BY WAY OF OPTICAL INTERFERENCE

ABSTRACT

This invention relates to a method for reading, while  
5 using optical interference, a barcode that extends into the  
depth of a substrate. The barcode is represented by an area  
with marks in the substrate that is partially transparent to  
electromagnetic radiation. The inventive method comprises the  
steps of irradiating the substrate with short coherence length  
10 light from a broad-band light source, dividing the light up  
into reference light and measuring light, returning the  
reference light and the measuring light back-scattered or  
reflected in the marked area to an analytical unit, determining  
the reflectance or the reflectivity of the substrate for all  
15 layer depths in the marked area from the interference of the  
reference light and the measuring light and interpreting the  
result as a barcode.